

WORK IN METAL OR FASHIONABLE EMPLOYMENT



A Plate in Repose of High Relief Other Pieces in Simple Line Engraving

Copper Pot of Antique Design

Sheet Metal Powder Box

Mustard Pot with Perforated Silver Cover

Silver Oxidized Glass Holder

Fancy Receptacle of Beaten Brass

Match Receiver of Silver Wire and Silver Sheet

Bonbon Box with Perforated Cover

Simple Designs in Hammered Silver

WHEN the novice in metal working once tastes the joy of actually constructing some artistic bit of silversmithy then from that time forward the attraction of the shop made article for her is forever gone. Then, too, she begins to appreciate the value of becoming more and more familiar with the best methods employed by expert craftsmen.

She will see new beauties in hand wrought silver and gold and will delve with all the strength of her new born enthusiasm into the fascinating study of the work of the ancient craftsmen and will see with what small and simple equipment they turned out articles of rare workmanship and exquisite design. Take the rich silver fashions and other similar vessels of olden Rome and the ancient jewelry of Egypt and Greece, each specimen of which has in it enough of inspiration to carry even the most staid and unimaginative student into an appreciation of really good art.

Even a visit to the Metropolitan Museum of Art, in New York, will prove a source of immense assistance, for since the time of the Hudson-Fulton celebration there has been on exhibition there one of the finest collections of hand wrought silver of the Colonial and other periods in the country. Particularly is this collection valuable to the girl at the beginning of her novitiate, for many of the specimens are precisely the sort of thing that the average girl desires to make, such as bowls, porringers, spoons, ladies' boxes and all the small silver of the table dresser.

To start with, there are several broad principles to remember in doing metal work. One of the most important is that any amount of hammering on metal makes it hard and brittle, so that annealing at frequent intervals is necessary. Now this, as any other operation in metal work, seems rather complicated to the novice, but it is all very simple once the process is known.

To anneal means to heat red hot and cool slowly. This retempers the metal, so to anneal a silver piece on which the beginner is working, lay the metal on a red hot stove or hold in the flame of a gas lamp until brought to the bright temperature. Copper may be heated until it turns a bright red color, but brass should never be allowed to get beyond a cherry red. With silver heat to a dull glowing red. After annealing rinse in water and dry.

Don't get frightened at the sort of tools necessary for hammered silver work. They are distinctly masculine, in that they are distinctly associated with the work of men, but when familiar with them they seem quite as harmless and simple as darning needle and bodkin.

A work bench is advisable, though not absolutely necessary, as a heavy table, shelf or window ledge will do, but as one such as is used in the schools for manual training can be bought for only \$6, it is wisest to invest. It is especially constructed for the convenience of the worker, having a semicircular piece cut out to allow the body of the craftsman to get close to her work, while it is fitted with a vise and blowpipe, both of which are constantly in demand.

WHEREVER I get my silver? is one of the first questions asked by the beginner. This can be bought at a shop where metal workers' tools are sold, and it comes already rolled, for the convenience of the worker, in about thirty different gauges or thicknesses.

These vary from that of ordinary writing paper to the thickest cardboard. For ordinary work, such as bonbon boxes and small bowls, a 22 gauge is best. Silver changes its price with the fluctuations of the market. Just now it is about ninety cents an ounce, while copper used for large bowls, jardinières and decorative plates is sold at something like twenty-five cents a pound.

To work with there must be a set of files, round, flat and square; several small hand chisels, a draw plate, pliers, snarling iron, several tongs to hammer the metal over and binding wire for tying the work together when soldered. A sand box, wooden block and pitch block, on which to place the metal while working on it, are indispensable, and borax crystals to form a flux in soldering.

No doubt all this sounds like Greek to the average girl, who has heretofore known only embroidery scissors, stilette and needle, but their use will be shown a bit later on.

A girl should not attempt too elaborate a piece for a beginner, for the simpler pieces well done and painstakingly ornamented will form a basis for nearly all the more complicated work to be attempted later on. Bowls and porringers and bonbon boxes are all things that appeal to the average girl, and the method of making the first two and others of their ilk are very similar.

Say a porringer is selected as the initial piece to be constructed. For this take sheet metal, about 22 gauge, and on it outline a circle which shall be larger than the vessel's profile. Within this circle mark with a compass many smaller circles, one within the other, graduating in size from the outer circle to one an inch in diameter in the centre, each circle being one-quarter of an inch from the

other. The beginner will find these lines of inestimable help in hammering the metal, for by following each concentric circle in turn the work is bound to be more or less uniform.

ANOTHER one of the salient points to be considered in hammering metal is that whenever sheet metal is struck by the hammer the result is that it is either stretched or contracted, and the previously flat surface becomes more or less round, according to the hammerman's ability to direct the blows aright. Continual beating around in increasing circles will cause the metal to become almost round. Experience will tell when the desired shape is secured.

To make the porringer, place the circular disc of metal over a wooden beating block which has in the centre a cup shaped hollow. With a round headed mallet beat the metal until it resembles a shallow bowl. Now turn the bowl over the end of a wooden stake, which, shaped like a pair of horns, is held firmly in the vise. A common poker held firmly to the floor is sometimes used for a stake. Following the lines of the circles, hammer the metal all around until it exhibits a springy feeling. Now it is time to anneal it. A point that will help the beginner is to remember in heating the metal to hold the elbow close to the side and let the movement be from the wrist.

After annealing and cooling turn the bowl and beat from the inside, working from the centre out, but stopping short of the brim. If the bowl gets out of shape during the process, put it on the beating block and make it uniform.

Once again beat the metal from the outside, following the concentric circles, as with the left hand the bowl is constantly being turned. To finish the surface planish it with a hammer made for the purpose over a polishing stake also constructed especially for this operation. This leaves the surface covered with brilliant facets which reflect the light in an exquisite manner.

The handle of the porringer may be as ornate as desired. For this take a piece of thick metal a trifle longer than the design in mind and gradually hammer the silver out on the anvil until it assumes a fan shaped appearance. Fill away any cracks that may appear to prevent them from spreading. Divide the fan shaped end into a number of long slender parts, an odd number preferred. Bend these outward into half circles, annual and continue bending into some ornate but symmetrical design. Lastly solder the divisions together.

To attach the handle to the porringer, broaden and flatten the opposite end, bend at right angles to the handle and solder to the bowl.

To solder is a simple process, but certain rules must be observed. Borax crystals ground up with water are used as a

flux to assist in firmly soldering the parts together. The edges of the metal to be joined should be scraped clean and painted with a solution of the borax. A camel's hair brush may be used. The parts together with binding wire. Pick up small pieces of solder, dip in borax water and place at intervals along the joint. Heat in the flame, using slight heat at first, gradually a hotter flame, which none of the time should be directed to any other part of the metal except the joint. When cooled the metal, to be cleansed from oxides, must be dipped in what is called a pickle, a mixture of one part hydrochloric acid and ten parts water.

Two very interesting and one very curious instrument are used in metal working. They are the snarling iron and draw plate. The former is a Z shaped piece of iron, one end of which when held in the vise and struck by a hammer just above this point allows the other to vibrate gently. By inserting this end into a long necked bottle or other vessel which could not be reached by the hammer any amount of bossing can be obtained.

The draw plate is a plate of iron pierced with a series of holes of varying sizes, through which from the largest to the

smaller the silver is drawn to the required thickness.

If a small bonbon box is the design to be attempted by the beginner, then the method of working is quite different and something simpler. It is certainly less work unless the ornamentation is very elaborate. In this event a strip of sheet metal the length of the circumference of the box is cut and two circular pieces for top and bottom, though the piece for the top must be a shade larger than the bottom in order to slip over the box. A narrow strip of metal for the band of the cover is also necessary. First solder the body of the box according to the di-

lay the work while treating the design. Pitch offers the moderate resistance best liked. This can easily be prepared at home or can be bought at a place where metal workers' tools are sold. If mixed at home use one-half of Burgundy pitch and one-half brick dust, and if this is too hard add a little linseed oil and rosin.

UNLESS the article is too large a common frying pan may be used for a pitch block. Pour the mixture over it to a depth of one inch and over this place the metal on which the design has been applied with impression paper, pressing it down well and drawing the cement up over the edge with the finger so as to hold it firmly when cooled. To prevent the pitch from sticking dip the fingers first in water. With a ball headed tool and mallet beat out the design before the pitch has wholly cooled. To remove when finished heat the pitch and clean the work with petroleum.

If low relief is desired, then the pattern is brought into relief by beating down the background. In the case of a vessel which cannot be laid on the pitch block it must be filled with pitch and the work done on a sanding.

Nothing is more effective for the tops of powder boxes or for trays of various descriptions than the perforated designs which entered largely into the old German work, especially that done in Nuremberg. In the case of soft metal the designs can be cut from the silver by simply using common shears or a boy's froesaw. If difficulty is experienced in cutting out the corners simply lay the metal on a small anvil—a common flatiron may be used instead of the anvil—and with a cold chisel cut out the difficult places.

With care and patience there is no reason why a good piece of work should not be turned out at the first trial. If a girl wishes to get grounded in the principles of metal working there are schools where she can do this, though, as one expert says, it is by thinking and trying, not by being shown, that one learns to produce anything valuable. If a girl is contented to begin by doing the simple things well she will really need no teaching whatever. As in design a complicated pattern is only the repetition of a simple motif, so in the actual fundamentals the simple things thoroughly well learned give one the knowledge by which the more elaborate are accomplished.

There are teachers, however, and there are text books that can be relied upon by those who feel they need guidance at the start.

Suggestions for Christmas Gifts.

EVERYTHING that can possibly be worked out in brocade is made from that material this year. Music rolls and muffs, opera bags and hats, match boxes and sofa cushions—there is no end to the list. A girl who has many Christmas gifts to make would do well to purchase a large square of Oriental brocade and from this piece she can fashion any number of attractive presents for those to whom only small remembrances are to be sent, as well as to the few who are to receive the larger gifts.

The Oriental pattern is to be had in bright colors, with threads of gold or silver, with a subdued tone at the same time which gives an illusion of the antique. This brocade is only to be had in double width, but, while expensive at first thought, there are so many different things that can be evolved from the one piece that in the end the cost is very little.

For an older woman nothing is so acceptable as a large workbag. Lined with old gold or bright blue satin, a brocade bag will be used for keeping the different parts of a knitted afghan or a piece of tapestry that is being worked upon at odd moments. A smaller size will do nicely for a piece of embroidery and there should be pockets in the lining for the different silks and needles. With the scraps that are left when the corners for the large bag are cut there can be fashioned a most attractive small bag or box for the knitted ties that all girls make so successfully.

A large, ordinary shaped sewing bag when made from brocade should be trimmed with gold metal lace and the strings should be of dull gold ribbon, finished with tassels of dull gold metal.

The best bag in which to keep the two balls of knitting silk for a tie is about six inches long, with round cardboard or even wooden ends about three and a half inches in diameter. These end pieces are covered on the outside with brocade and on the inside with satin, the same as the rest of the lining. There is an envelope flap for this little round box or bag. To finish it a band of dull gold braid or of gold metal lace may be stitched on all around as a border.

The favorite and in fact the only embellishment for brocades of the Chinese patterns is the dull gold braid and the gold metal lace. Old gold silk or satin is, as a rule, the best color for lining, but with some pieces bright blue, dull green and often deep salmon pink will tone in exquisitely.

An opera bag with a little mirror fitted in at the end is extremely pretty worked out in brocade. Ordinary dress brocade also makes an attractive opera bag, and

for a friend who wears a cloak or evening gown of brocade a bag of the same material bordered with silver lace and tied with silver ribbon and tassels will surely be an acceptable gift.

Metal frames can be bought in all sizes for every kind of bag, and instead of the ribbon and gold strings to fasten the new bags many have a stiff frame. For an opera bag or any kind of a shopping bag the stiff frame is often preferred.

Powder boxes, hatpin cases, hairpin boxes, appointments for the writing table, book racks and book covers, veil cases, handkerchief cases, even card cases, are now all made in the Oriental pattern brocade, with its threads of gold and silver interwoven, instead of the ordinary silk brocade which was used so widely only a year ago.

And this brocade, which formerly was used only in the field of house decoration, has now invaded the world of dress. A large pillow muf bordered all around with a band of fur can easily be made by any girl who will take the time to fashion a prettily shirred satin facing for the brocade and a nicely finished small flat satin covered muf, over which the wide brocade piece is laid and sewed only across the centre of the brocade, which falls down over the muf on each side. For an older sister such a muf with a collar to correspond would make a most attractive present.

Small round muffs with a border of fur at the wrist openings are also very smart in brocade, and as they require much less brocade and fur they are consequently less costly to make.

To fashion a collar for a brocade muf it is only necessary to make a ruche of the material, line it with satin and border it at each end with fur, finishing the collar with a ribbon rosette over the bows and eyes or else ribbon streamers to tie the collar beneath the chin. Instead of fur marabou may be used and is equally effective and quite a little lower in cost.

PIG PICTURES—NEW GAME.

NO end of amusement may be extracted by a group of young people from a Pig Book containing blank pages on which each member of the party, while blindfolded, sketches his or her idea of what a pig is like.

The books are of two sorts. One type contains pages of ordinary paper on which the drawing is done with lead pencil. The other kind has sensitized leaves and upon them a meat skewer is used to trace the outline of a pig.

Prizes are awarded for the best and the worst drawings and every member of the party fills in the space reserved on his page for the name, address and date.

SOCIAL AMENITIES FOR THE SCHOOL GIRL

ONE of the first duties of the daughter of the house should be to see that the guest room is always ready for a visitor at a moment's notice. A visitor can be more quickly made to feel that her presence is really wanted in the household if on every side her apartment shows a careful forethought of her comfort than by other means.

Kind words of greeting of course play the first part in making the guest feel at home, but her welcome ever so cordial its effect will soon vanish if the guest is ushered to a room which shows only too plainly that not a moment in the day has been spared in planning for the visitor's arrival.

There is no need to spare room should be the best chamber in the house, nor when there is an extra room are there many cases when it is advisable for some member of the family to move out of her own room for the visitor. The average guest would infinitely rather put up with small quarters than feel that she is putting any member of the family, even the youngest child, to inconvenience. She will be far more apt to enjoy her visit if she can feel her coming and departure have not occasioned a general upheaval in the arrangements of the house.

The average guest chamber is unpleasantly like any hotel room, although often not so complete. It contains all the necessities and not one of the luxuries or little touches that go to make a room attractive. There is always a bed, a bureau and table, a washstand or wash closet and generally a desk; but how often there are no paper and writing materials for the writing table, no new books on the shelf and no toilet requisites on bureau and washstand for the guest whose trunk is delayed in its arrival.

The really thoughtful hostess will try to call to mind all the little luxuries that her friend delights in, and will provide

them in her room if it be possible. If she is fond of reading there will be books on her bed table—poetry, new novels, histories—whatever she cares most for.

If she is leaving home for long there will be many letters to be written to her family, and the desk should be carefully stocked with pen, pencils, ink, writing paper and stamps. To keep a book of postage stamps in the guest room will not amount to more than a dollar or two at the outside in the course of a year, and though this may mean the greatest convenience to the visitor it is an item which the most generous hostess seldom provides for. Just why so many extraordinarily generous girls and older women as well—are consistently small in giving postage stamps it is hard to say, but it is certainly the favorite and perhaps the only real economy of the age, as it is about the only form of economy that is really foolish.

In fitting out the guest room there are certain articles that should always be there ready for the guest who comes unexpectedly to luncheon as well as the visitor of a week or month. On the dressing table there should be the necessary articles—comb, brush, manicure set, button hook and hand mirror—but no great collection of useless boxes and flasks. On the washstand should be a fresh cake of soap, a neatly ironed face rag, a jar of cold cream perhaps and a bottle of bath salts, so that the guest shall not miss her baggage should it be delayed even overnight. If the tastes of the visitor are well known there will be a bottle of her favorite cologne on the dressing table and the kind of powder that she prefers will be found in the powder box.

There must always be a light within easy reach of the bed. Not every house is equipped with the luxury of electric lamps by every bedside, so the old fashioned candle and box of matches will have to answer in most cases. Attractive

Individual Reference Books.

INDIVIDUAL reference books are now of so large and varied a character that in order readily to lay the hands upon the needed volume each one of the collection should be bound in a distinctive way. Whether a college girl is giving a recipe book to the head of a household or a herself collecting recipes against the time when she is married, that practical volume should have a most substantial binding and be provided with at least two adjustable covers of heavy natural colored linen, suitably embroidered in wash silk.

This is because the recipe book comes into contact with greasy and oily substances while in the kitchen, and only frequent laundering of its covers will prevent it from becoming a repulsive article to handle.

Embossed black trunk leather is the best covering for travel books, as that material withstands moisture and does not soil. These volumes should be about eight by ten inches in diameter and of not more than five hundred pages. Otherwise they will be inconveniently bulky. A good plan is to have in reserve several moderately sized books, and so soon as one has been filled to label and date it in gold, silver or a bright color and express it home for future reference.

If photograph and post card books are to become a real enjoyment to their owner they should be started systematically and each one of them bound in so distinctive a shade of morocco that at a

glance the volume needed for reference may be located on its shelf. The binding colors are easily determined. Irish green, Spanish yellow and French army blue are recognized readily and white stars on blue promptly suggest "Old Glory."

The girl whose duty it is to make inventories of the household napery, bed linen, furniture, silver, china, cutlery and library will find it easier to have a separate book for each department, as twice a year she can then check off whatever article is discarded or lost and on a fresh page enter the description and cost of whatever has been newly purchased. As the rougher or frequently handled items are best bound in leather, and the more valuable or delicate ones in cloth or silk, the girl's desk, but if of any of those shades of green, blue or red.

Visiting list, engagement and check books have a prominent place on the not so well equipped shelves. These should be in an ornamental manner. Orchid tinted moire silk paper bound volumes are charming for a young girl's desk, but if brodered woven covers—and also extra clean—of ribbon or silk thread are used, they are not only easily cleaned—are of ribbon or silk thread—and are of a more durable and artistic and durable are those of French tapestry, furniture brocade or figured morocco.